

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-9 (canceled);

Claim 10 (currently amended): A virus formulation comprising:

- a) a purified virus;
- b) a buffer;
- c) a sugar;
- d) a salt;
- e) a divalent cation;
- f) a non-ionic detergent; and,
- g) ~~at least one inhibitor of free radical oxidation~~ an EDTA/ethanol combination.

Claim 11 (currently amended): A virus formulation of claim 10 with a virus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L.

Claim 12 (currently amended): A virus formulation of claim 10 with a virus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL, wherein the buffer is a Tris buffer, at a pH from about 7.0 to about 9.0.

Claim 13 (original): A virus formulation of claim 12 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

Claim 14 (original): A virus formulation of claim 13 wherein the divalent cation is selected from the group consisting of MgCl_2 and CaCl_2 in an amount from about 0.1 mM to about 5 mM.

Claim 15 (original): A virus formulation of claim 14 wherein the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.

Claim 16 (currently amended): A virus formulation of claim ~~15~~ 10 ~~wherein the inhibitor of free radical oxidation is selected from the group consisting of ethanol, EDTA, triethanolamine, sodium citrate, further comprising histidine, and combinations thereof.~~

Claim 17 (currently amended): A virus formulation of claim 10 with a concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L wherein,

said buffer is about 1 mM Tris to about 10 mM Tris to provide a pH range from about pH 7.5 to about pH 8.5;

said sugar is sucrose present in a weight to volume range of about 2% to about 8%;

said salt is NaCl present in a range from about 25 mM to about 250 mM;

said divalent cation is $MgCl_2$ in a range from about 0.1 mM to about 5 mM;

said surfactant is Polysorbate-80 at a concentration from about 0.001% to about 0.25%;

and

~~said at least one inhibitor of free radical oxidation~~ EDTA/ethanol combination is a combination of EDTA from about 1 μ M to about 500 μ M; and ethanol from about 0.1% to about 5.0%; and

further comprising histidine from 5 mM to 10 mM.

Claim 18 (currently amended): A virus formulation of claim 17, wherein EDTA is at about 100 μ M and ethanol is at about 0.5%.

Claim 19 (currently amended): A virus formulation of claim 11 comprising adenovirus and a formulation selected from the group consisting of formulation number ~~A105, A110, A111, A112, A121, A126, A127, A128, A129, A130, A131, A151b, A155, A159, A160, A165, A167, A168, A169, A170, A171, A172 and A173.~~

Claims 20-23 (canceled):

Claim 24 (currently amended): An adenovirus formulation comprising a purified adenovirus and ~~at least one inhibitor of free radical oxidation selected from the group consisting~~

~~of ethanol, EDTA, triethanolamine, sodium citrate, histidine, and combinations thereof~~ an EDTA/ethanol combination.

Claim 25 (currently amended): An adenovirus formulation of claim 24 further comprising a buffer, a sugar, a salt, a divalent cation, and a non-ionic detergent.

Claim 26 (previously presented): An adenovirus formulation of claim 25 with an adenovirus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/ml and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L.

Claim 27 (previously presented): An adenovirus formulation of claim 26, wherein the buffer is a Tris buffer, at a pH from about 7.0 to about 9.0.

Claim 28 (currently amended): An adenovirus formulation of claim 27 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, ~~such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.~~

Claim 29 (previously presented): An adenovirus formulation of claim 28 wherein the divalent cation is selected from the group consisting of MgCl_2 and CaCl_2 in an amount from about 0.1 mM to about 5 mM.

Claim 30 (previously presented): An adenovirus formulation of claim 29 wherein the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.

Claim 31 (previously presented): An adenovirus formulation of claim 24, comprising:
about 1 mM Tris to about 10 mM Tris to provide a pH range from about pH 7.5 to about pH 8.5;

sucrose in a weight to volume range of about 2% to about 8%;

NaCl in a range from about 25 mM to about 250 mM;

MgCl_2 in a range from about 0.1 mM to about 5 mM;

Polysorbate-80 at a concentration from about 0.001% to about 0.25%;

EDTA from about 1 μM to about 500 μM ; and

ethanol from about 0.1% to about 5.0%.

Claim 32 (previously presented): An adenovirus formulation of claim 31, wherein EDTA is present from about 50 μ M to about 250 μ M, ethanol is present from about 0.25% to about 2.0% and further comprising histidine from 5 mM to 10 mM.

Claims 33-46 (canceled):

Claim 47 (currently amended): An adenovirus formulation of claim ~~46~~ 25 ~~wherein at least one inhibitor of free radical oxidation of g) is selected from the group consisting of ethanol, EDTA, triethanolamine, sodium citrate, histidine, and combinations thereof~~ further comprising histidine.

Claim 48 (canceled):

Claim 49 (currently amended): An adenovirus formulation of claim ~~47~~ 25 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

Claim 50 (previously presented): An adenovirus formulation of claim 49 wherein the divalent cation is selected from the group consisting of $MgCl_2$ and $CaCl_2$ in an amount from about 0.1 mM to about 5 mM.

Claim 51 (previously presented): An adenovirus formulation of claim 50 wherein the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.

Claim 52 (canceled):

Claim 53 (currently amended): An adenovirus formulation of claim ~~46~~ 25 comprising adenovirus and a formulation selected from the group consisting of formulation number ~~A105, A110, A111, A112, A121, A126, A127, A128, A129, A130, A131, A151b, A155, A159, A160, A165, A167, A168, A169, A170, A171, A172 and A173.~~

Claim 54 (canceled):

Claim 55 (currently amended): An adenovirus formulation of claim ~~48~~ 47 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

Claim 56 (previously presented): An adenovirus formulation of claim 55 wherein the divalent cation is selected from the group consisting of MgCl_2 and CaCl_2 in an amount from about 0.1 mM to about 5 mM.

Claim 57 (previously presented): An adenovirus formulation of claim 56 wherein the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.

Claim 58 (currently amended): An adenovirus formulation of claim 57 with ~~a virus~~ an adenovirus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL, wherein the buffer is a Tris buffer, at a pH from about 7.0 to about 9.0.

Claim 59 (currently amended): An adenovirus formulation of claim ~~46~~ 25, wherein said purified adenovirus is present in a concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL;

the total osmolarity in a range from about 200 mOs/L to about 800 mOs/L;

said buffer is about 1 mM Tris to about 10 mM Tris to provide a pH range from about pH 7.5 to about pH 8.5;

said sugar is sucrose present in a weight to volume range of about 2% to about 8%;

said salt is NaCl is present in a range from about 25 mM to about 250 mM;

said divalent cation is MgCl_2 in a range from about 0.1 mM to about 5 mM;

said surfactant is Polysorbate-80 at a concentration from about 0.001% to about 0.25%;

and

said ~~at least one inhibitor of free radical oxidation~~ EDTA/ethanol combination is a combination of EDTA from about 1 μM to about 500 μM , ethanol from about 0.1% to about 5.0%; and,

~~optionally,~~ said formulation further comprises histidine.

Claim 60 (previously presented): An adenovirus formulation of claim 59, wherein EDTA is at about 100 μ M, ethanol is at about 0.5% and histidine is present from 5 mM to 10 mM.

Claim 61 (canceled):

Claim 62 (previously presented): An adenovirus formulation with an adenovirus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L which comprises from about 5.0 mM to about 10 mM Tris at a pH from about 7.0 to about 9.0, sucrose at about 5% weight/volume, NaCl at about 75 mM, $MgCl_2$ from about 1 mM to 2 mM, Polysorbate-80 from about 0.005% to about 0.1% weight/volume, EDTA at about 100 μ M, ethanol at about 0.5% weight/volume, and histidine from about 5 mM to about 10 mM.

Claim 63 (previously presented): An adenovirus formulation of claim 62 wherein the Tris buffer is present at about 10 mM, sucrose at about 5% weight/volume, NaCl at about 75 mM, $MgCl_2$ at about 1 mM, Polysorbate-80 from about 0.02% weight/volume, EDTA at about 100 μ M, ethanol at about 0.5% weight/volume, and histidine at about 10 mM.

Claim 64 (currently amended): An adenovirus formulation comprising a recombinant adenovirus and an EDTA/ethanol combination ~~at least two inhibitors of free radical oxidation, wherein said inhibitors are selected from the group consisting of ethanol, EDTA, triethanolamine, sodium citrate, histidine, and combinations thereof.~~

Claim 65 (currently amended): An adenovirus formulation of claim 64 further comprising a buffer, a sugar, a salt, a divalent cation, and a non-ionic detergent.

Claim 66 (previously presented): An adenovirus formulation of claim 65 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

Claim 67 (previously presented): An adenovirus formulation of claim 66 wherein the divalent cation is selected from the group consisting of $MgCl_2$ and $CaCl_2$ in an amount from

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about 0.1 mM to about 5 mM and the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.